



## SEQUENCE LISTING

<110> Sette, Alessandro  
Gaeta, Federico  
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Sidney, John  
Alexander, Jeffery L.  
Epimmune Inc.

<120> Induction of Immune Response Against  
Desired Determinants

<130> 018623-006250US

<140> US 09/707,738

<141> 2000-11-06

<150> US 08/121,101

<151> 1993-09-14

<150> US 08/305,871

<151> 1994-09-14

<150> US 08/485,218

<151> 1995-06-07

<150> US 60/010,510

<151> 1996-01-24

<150> US 08/788,822

<151> 1997-01-23

<150> US 09/310,462

<151> 1999-05-12

<160> 27

<170> FastSEQ for Windows Version 3.0

<210> 1

<211> 13

<212> PRT

<213> Artificial Sequence

<220>

<223> HA 307-319

<400> 1

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<210> 2

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<212> PRT

<213> Artificial Sequence

<220>

<223> MBP 78-101

<400> 2  
 Gly Arg Thr Gln Asp Glu Asn Pro Val Trp His Phe Phe Lys Asn Ile  
 1 5 10 15  
 Val Thr Pro Arg Thr Pro Pro Pro  
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<210> 3  
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 <212> PRT  
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<220>  
 <223> MT 65 kd 3-13

<400> 3  
 Tyr Lys Thr Ile Ala Phe Asp Glu Glu Ala Arg Arg  
 1 5 10

<210> 4  
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<220>  
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<400> 4  
 Tyr Ala Arg Phe Gln Ser Gln Thr Thr Leu Lys Gln Lys Thr  
 1 5 10

<210> 5  
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<220>  
 <223> Tet Tox 830-843, T-helper epitope from tetanus  
 toxin p2, peptide 553.01

<400> 5  
 Gln Tyr Ile Lys Ala Asn Ser Lys Phe Ile Gly Ile Thr Glu  
 1 5 10

<210> 6  
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<400> 6  
 Asn Gly Gln Ile Gly Asn Asp Pro Asn Arg Asp Ile Leu  
 1 5 10

<210> 7  
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<220>  
 <223> ROIV

<400> 7  
 Tyr Ala His Ala Ala His Ala Ala His Ala Ala His Ala Ala His Ala  
 1 5 10 15  
 Ala

<210> 8  
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<220>  
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<400> 8  
 Ile Ser Gln Ala Val His Ala Ala His Ala Glu Ile Asn Glu  
 1 5 10

<210> 9  
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 <212> PRT  
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<220>  
 <223> lambda rep 12-26

<400> 9  
 Tyr Leu Glu Asp Ala Arg Arg Leu Lys Ala Ile Tyr Glu Lys Lys Lys  
 1 5 10 15

<210> 10  
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 <212> PRT  
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<220>  
 <223> HEL 46-61

<400> 10  
 Tyr Asn Thr Asp Gly Ser Thr Asp Tyr Gly Ile Leu Gln Ile Asn Ser  
 1 5 10 15  
 Arg

<210> 11  
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 <212> PRT  
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<220>  
 <223> all-natural analog of pan DR binding peptide  
 965.10 with substitutions L-Ala for D-Ala, Phe at  
 position X2 and Trp at position X6

<400> 11  
 Ala Lys Phe Val Ala Ala Trp Thr Leu Lys Ala Ala Ala  
 1 5 10

<210> 12  
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 <212> PRT  
 <213> Artificial Sequence

<220>

<223> all-natural analog of pan DR binding peptide  
 965.10 with substitutions L-Ala for D-Ala, Phe at  
 position X2 and Asn at position X6

<400> 12

Ala	Lys	Phe	Val	Ala	Ala	Asn	Thr	Leu	Lys	Ala	Ala	Ala
1				5					10			

<210> 13  
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 <212> PRT  
 <213> Artificial Sequence

<220>

<223> all-natural analog of pan DR binding peptide  
 965.10 with substitutions L-Ala for D-Ala, Phe at  
 position X2 and Tyr at position X6

<400> 13

Ala	Lys	Phe	Val	Ala	Ala	Tyr	Thr	Leu	Lys	Ala	Ala	Ala
1				5					10			

<210> 14  
 <211> 13  
 <212> PRT  
 <213> Artificial Sequence

<220>

<223> all-natural analog of pan DR binding peptide  
 965.10 with substitutions L-Ala for D-Ala, Phe at  
 position X2 and Lys at position X6

<400> 14

Ala	Lys	Phe	Val	Ala	Ala	Lys	Thr	Leu	Lys	Ala	Ala	Ala
1				5					10			

<210> 15  
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<220>

<223> all-natural analog of pan DR binding peptide  
 965.10 with substitutions L-Ala for D-Ala, Phe at  
 position X2 and His at position X6

<400> 15

Ala	Lys	Phe	Val	Ala	Ala	His	Thr	Leu	Lys	Ala	Ala	Ala
1				5					10			

<210> 16  
 <211> 13  
 <212> PRT  
 <213> Artificial Sequence

<220>

<223> all-natural analog of pan DR binding peptide  
965.10 with substitutions L-Ala for D-Ala, Phe at  
position X2 and Ala at position X6

<400> 16

Ala Lys Phe Val Ala Ala Ala Thr Leu Lys Ala Ala Ala  
1 5 10

<210> 17

<211> 25

<212> PRT

<213> Artificial Sequence

<220>

<223> central immunodominant circumsporozoite repeat  
region of circumsporozoite protein (CSP) of  
Plasmodium yoelii (PyB)

<400> 17

Gly Gln Gly Pro Gly Ala Pro Gln Gly Pro Gly Ala Pro Gln Gly Pro  
1 5 10 15  
Gly Ala Pro Gln Gly Pro Gly Ala Pro  
20 25

<210> 18

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> central immunodominant circumsporozoite repeat  
region of circumsporozoite protein (CSP) of  
Plasmodium falciparum (PfB)

<400> 18

Asn Ala Asn Pro Asn Ala Asn Pro Asn Ala Asn Pro Asn Ala Asn Pro  
1 5 10 15

<210> 19

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> protective B-cell epitope tandem repeat from the  
PyB CSP

<400> 19

Gln Gly Pro Gly Ala Pro  
1 5

<210> 20

<211> 21

<212> PRT

<213> Artificial Sequence

<220>

<223> universal T-helper epitope from tetanus toxin p30

<400> 20  
Phe Asn Asn Phe Thr Val Ser Phe Trp Leu Arg Val Pro Lys Val Ser  
1 5 10 15  
Ala Ser His Leu Glu  
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<210> 21  
<211> 12  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> PyCS.1 Plasmodium falciparum B-epitope

<400> 21  
Gln Gly Pro Gly Ala Pro Gln Gly Pro Gly Ala Pro  
1 5 10

<210> 22  
<211> 13  
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<213> Artificial Sequence

<220>  
<223> peptide 965.17

<220>  
<221> MOD\_RES  
<222> (3)...(3)  
<223> Xaa = cyclohexylalanine

<220>  
<221> MOD\_RES  
<222> (13)...(13)  
<223> Xaa = alaninamide

<400> 22  
Ala Lys Xaa Val Ala Ala Trp Thr Leu Lys Ala Ala Xaa  
1 5 10

<210> 23  
<211> 13  
<212> PRT  
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<220>  
<223> peptide binds more than one DR allele

<220>  
<221> MOD\_RES  
<222> (1)...(1)  
<223> Xaa = any D- or L-amino acid

<220>  
<221> MOD\_RES  
<222> (2)...(2)  
<223> Xaa = Ala or Lys

<220>  
 <221> MOD\_RES  
 <222> (3)...(3)  
 <223> Xaa = cyclohexylalanine, Tyr or Phe

<220>  
 <221> MOD\_RES  
 <222> (4)...(6)  
 <223> Xaa = Ala, Ile, Ser or Val

<220>  
 <221> MOD\_RES  
 <222> (11)...(12)  
 <223> Xaa = Ala, Ser or Val

<220>  
 <221> MOD\_RES  
 <222> (13)...(13)  
 <223> Xaa = any D- or L-amino acid

<400> 23  
 Xaa Xaa Xaa Xaa Xaa Xaa Trp Thr Leu Lys Xaa Xaa Xaa  
 1 5 10

<210> 24  
 <211> 14  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> peptide binds more than one DR allele

<220>  
 <221> MOD\_RES  
 <222> (1)...(1)  
 <223> Xaa = any D- or L-amino acid

<220>  
 <221> MOD\_RES  
 <222> (2)...(2)  
 <223> Xaa = Ala or Lys

<220>  
 <221> MOD\_RES  
 <222> (3)...(3)  
 <223> Xaa = cyclohexylalanine, Tyr or Phe

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 <222> (4)...(6)  
 <223> Xaa = Ala, Ile, Ser or Val

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 <223> Xaa = Ala, Ser or Val

<220>  
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 <222> (14)...(14)  
 <223> Xaa = any D- or L-amino acid

<400> 24  
 Xaa Xaa Xaa Xaa Xaa Xaa Trp Thr Leu Lys Xaa Xaa Xaa Xaa  
 1 5 10

<210> 25  
 <211> 15  
 <212> PRT  
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<220>  
 <223> peptide binds more than one DR allele

<220>  
 <221> MOD\_RES  
 <222> (1)...(1)  
 <223> Xaa = any D- or L-amino acid

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 <223> Xaa = Ala or Lys

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<220>  
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<220>  
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 <223> Xaa = Ala, Ser or Val

<220>  
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 <222> (15)...(15)  
 <223> Xaa = any D- or L-amino acid

<400> 25  
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 1 5 10 15

<210> 26  
 <211> 16  
 <212> PRT  
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<220>  
 <223> peptide binds more than one DR allele



<220>  
 <221> MOD\_RES  
 <222> (1)...(1)  
 <223> Xaa = any D- or L-amino acid

<220>  
 <221> MOD\_RES  
 <222> (2)...(2)  
 <223> Xaa = Ala or Lys

<220>  
 <221> MOD\_RES  
 <222> (3)...(3)  
 <223> Xaa = cyclohexylalanine, Tyr or Phe

<220>  
 <221> MOD\_RES  
 <222> (4)...(6)  
 <223> Xaa = Ala, Ile, Ser or Val

<220>  
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 <222> (7)...(7)  
 <223> Xaa = Ala, Ile, Ser or Val, Xaa at position 7 may  
 be present or absent

<220>  
 <221> MOD\_RES  
 <222> (12)...(13)  
 <223> Xaa = Ala, Ser or Val

<220>  
 <221> MOD\_RES  
 <222> (14)...(15)  
 <223> Xaa = Ala, Ser or Val, Xaa at positions 14 and 15  
 may be present or absent

<220>  
 <221> MOD\_RES  
 <222> (16)...(16)  
 <223> Xaa = any D- or L-amino acid

<400> 26  
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 1 5 10 15

<210> 27  
 <211> 4  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> pan DR binding peptide binding core

<400> 27  
 Trp Thr Leu Lys  
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